

## CLAIMS:

1. A method of manufacturing a mould for producing a customized optical surface, whereby a mould having a base shape is modified to obtain the required shape of the mould surface, characterized in that use is made of a photolithographic process, comprising the steps of
  - 5 - providing the mould surface with photoresist layer;
  - exposing the photoresist layer to a predetermined pattern of exposure radiation during a predetermined time, and
  - developing the photoresist layer, thereby selectively removing photoresist material according to the radiation pattern and shaping the exposed surface of the layer to the  
10 required end shape of the mould,
2. A method as claimed in claim 1, characterized in that use is made of a negative- photoresist layer.
- 15 3. A method as claimed in claim 1 or 2, characterized in that the mould is made of a material that is transparent to the exposure radiation.
4. A method as claimed in claim 1, 2 or 3, characterized in that the mould is made of a plastic material.  
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5. A method as claimed in claim 2, characterized in that the photoresist layer is exposed via the mould.
6. A method of manufacturing a composed mould for producing a contact lens,  
25 which composed mould comprises a first and a second mould for forming a first surface and a second surface, respectively of the contact lens, characterized in that each of the moulds is manufactured by the method as claimed in any of claims 1-5.

7. A method of manufacturing a contact lens comprising a first, concave, surface and a second, convex, surface, which method comprises the steps of:
- providing a composed mould comprising a first mould having a surface, which is the negative of the first lens surface, and a second mould having a surface, which is the negative of the second lens surface;
  - filling the space between the mould surface with a polymer material;
  - exposing the polymer material to UV radiation thereby hardening the material and shaping it to a lens having the said first and second surface, characterized in that use is made of a composed mould manufactured according to the method of claim 6.
8. A contact lens manufactured by means of the method claim 7.
9. A device for performing the exposure step of the method of claim 1, characterized in that it comprises in this order:
- a radiation source emitting UV radiation;
  - optical means for concentrating the emitted radiation in an exposure beam;
  - a spatial light modulator for imparting to the exposure beam a radiation distribution according to the said predetermined pattern, and
  - a mould holder arranged in the path of the radiation from the spatial light modulator for holding the mould to be exposed.
10. A device as claimed in claim 9, characterized in that the spatial light modulator is one of the types: liquid crystal display (LCD), digital mirror device and deformable mirror device.
11. A device as claimed in claim 9 or 10, characterized in that an optical projection system is arranged between the spatial light modulator and the mould holder.
12. A device as claimed in claim 9 or 10, characterized that the mould holder and the spatial light modulator are arranged close to each other without intervening optical means between them.

13. A device as claimed in any one of claims 9-12, characterized in that a diffuser element is arranged in the path of the exposure beam between the spatial light modulator and the mould holder.
- 5 14. A device as claimed in any one of claims 9-12, characterized in that the mould holder is arranged at such distance from the projection system that the photoresist layer on the mould to be exposed is outside the focus plane of the projection system.
- 10 15. A device as claimed in any one of claims 9-14, characterized in that the spatial light modulator is coupled to a computer , which supplies data about the exposure pattern to be formed in the photoresist layer.